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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/841,156	04/25/2001	Shunpei Yamazaki	12732-033001	4159
26171	7590	05/15/2006	EXAMINER	
FISH & RICHARDSON P.C.			DOTY, HEATHER ANNE	
P.O. BOX 1022			ART UNIT	
MINNEAPOLIS, MN 55440-1022			PAPER NUMBER	
			2813	

DATE MAILED: 05/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.		Applicant(s)	
	09/841,156		YAMAZAKI ET AL.	
	Examiner		Art Unit	
	Heather A. Doty		2813	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-12, 14, 19, 23-45, 47, 48, 50, 51 and 53-70 is/are pending in the application.
- 4a) Of the above claim(s) 23-45 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-12, 14, 19, 47, 48, 50, 51 and 53-70 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/01/2006 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terada et al. (U.S. 6,280,559; hereinafter Terada) in view of Bando (U.S. 5,276,999) and Yoneda et al. (U.S. 6,392,340; hereinafter Yoneda).

Regarding claims 9 and 10, Terada discloses forming a plurality of light-emitting elements **34**, at the front surface of a substrate 1, the substrate being formed of, *inter alia*, glass or polymeric material (Fig. 4; column 15, lines 41-51); polishing a back surface of the first substrate by a grinding method to thereby reduce the thickness to, *inter alia*, 75 μm , which is less than 300 μm (column 26, lines 38-41); and bonding a color filter **35** adjacent the light-emitting element, the color filter made from a

transparent substrate **37** with color filter layers/elements **47** (red), **48** (green), and **49** (blue—column 18, lines 65-66) thereon at the surface of the first substrate opposite to the light-emitting elements **34** (column 26, lines 45-61).

Terada does not name the grinding as “chemical mechanical polishing” and does not teach forming a light-emitting element emitting red light, a light-emitting element emitting green light, and a light-emitting element.

However, Bando teaches chemical mechanical polishing of substrates (column 5, lines 25-30) for the high flatness required of displays (see column 1, lines 6-12).

Therefore, at the time of the invention, it would have been obvious for one of ordinary skill in the art to polish the substrate, both front and back, of Terada because Bando teaches that high flatness is required for light-emitting displays, such as that in Terada.

Further, Yoneda teaches that it is conventional in an electroluminescent (EL) display to provide a red light-emitting device, a green light-emitting device, and a blue light-emitting device (Fig. 1; column 1, lines 53-61). The fact that Yoneda teaches this conventional device as non-preferred over an embodiment including a white light does not mean that it would not have been obvious to use the EL display comprising separate red, green, and blue light-emitting devices, since it is known to be conventional in the art and therefore would require no further development time or resources (see MPEP 2123).

Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to use the method taught by Terada and Bando together, and

further substitute a red light-emitting device, a green light-emitting device, and a blue light-emitting device adjacent to each of Terada's red, green, and blue color filters, respectively, for the light-emitting device taught by Terada, since Yoneda teaches that it is conventional in the semiconductor art of manufacturing EL displays to form each of a red, green, and blue light-emitting device, and Terada teaches forming color filters adjacent to light-emitting devices.

Regarding claim 10, as explained above, the prior art of Terada in view of Bando and Yoneda discloses each of the claimed features. Yoneda additionally teaches that it is known in the art for each light-emitting element to be electrically connected to a thin-film transistor (i.e., a semiconductor element), TFT (column 1, lines 14-43).

Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to electrically connect a TFT to each of the light-emitting devices taught by the combination of Terada, Bando, and Yoneda, as further taught by Yoneda, in order to have independent control over each device and thereby form a more efficient, effective display.

Claims 11, 12, 14, 19, 47, 48, 50, and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terada in view of Bando and Yoneda and further in view of King et al. (U.S. 4,963,788; hereinafter King) and considered with the article by Stuart M. Lee, entitled "Lunar Building Materials – Some Considerations on the Use of Inorganic Polymers" for a showing of inherency only for dependent claims 14, 19, 48, and 51.

The prior art of Terada in view of Bando and Yoneda, as explained above, discloses each of the claimed features except for bonding a polarization plate (claims 11 and 12) or anti-reflective film (claims 47 and 50) to the transparent substrate of the color filter.

King discloses a thin-film electroluminescent display and is therefore drawn to the same endeavor as is Terada. King teaches that contrast can be improved by providing a polarizer or antireflective coating on the viewer's side surface (i.e. the front side surface) of the display—in spite of the attenuation in luminescence (King, column 1, lines 28-42 and especially column 5, lines 9-17).

Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to bond an antireflective coating or polarizer to the front surface of the display taught by the combined teachings of Terada, Bando, and Yoneda—i.e. the transparent substrate **37** of the color filter taught by Terada—in order to improve the contrast, as taught by King.

Regarding claims 14, 19, 48, and 51, Terada teaches that an exemplary transparent substrate **37** material of the color filter is glass (column 24, lines 22-24). Glass is inherently a polymeric material (see Lee article—especially the first line of the second page—for validation).

Claims 47, 48, 49, and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terada in view of Bando and Yoneda and further in view of Matthies et al. (U.S. 6,476,783; hereinafter Matthies) and considered with the article by Stuart M.

Lee, entitled "Lunar Building Materials – Some Considerations on the Use of Inorganic Polymers" for a showing of inherency only for dependent claims 14, 19, 48, and 51.

Regarding claims 47 and 50, the prior art of Terada in view of Bando and Yoneda, as explained above, discloses each of the claimed features, except for bonding an antireflection film to the transparent substrate.

Matthies teaches a method of improving contrast to an EL display and is therefore drawn to the same endeavor as is Terada. Matthies teaches that the viewer's side surface of the display (i.e. the direction through which the emitted light exits) is always subject to specular reflectance. Matthies teaches one solution to the problem is to bond an antireflective coating on the viewer's side surface (Matthies, paragraph bridging columns 9 and 10).

Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to bond an antireflective coating to the viewer's side surface of the Terada display—i.e., the transparent substrate 37 of the color filter—in order to remove specular reflectance and thereby improve the contrast, as taught by Matthies.

Regarding claims 48 and 51, Terada teaches an exemplary transparent substrate 37 material of the color filter is glass (column 24, lines 22-24). Glass is inherently a polymeric material (see Lee article—especially the first line of the second page—for validation).

Claims 53-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terada et al. (U.S. 6,280,559; hereinafter Terada) in view of Bando (U.S. 5,276,999)

and Yoneda et al. (U.S. 6,392,340; hereinafter Yoneda), as applied to claims 9 and 10 above, and further in view of Bao et al. (U.S. 6,252,253; hereinafter Bao).

Regarding claims 53-58, Terada and Bando and Yoneda together teach the method of claims 9 and 10 (see above), but do not expressly teach that at least one of the light, green, or blue light-emitting elements is formed by deposition using a shadow mask, an ink-jet method, or a printing method.

Bao teaches forming a red light-emitting element using a shadow mask, an ink-et method, or a printing method. Bao expressly teaches that any of these methods is suitable for forming such a light-emitting element (column 8, lines 44-48).

Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to use the method taught by Terada, Bando, and Yoneda together, and further use a shadow mask deposition, an ink-jet method, or a printing method to form either the red, blue, or green light-emitting element, since Bao teaches that these are suitable methods.

Claims 59-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terada, Bando, Yoneda and King et al. as applied to claims 11, 12, 47, and 50 above, and further in view of Bao et al. (U.S. 6,252,253; hereinafter Bao).

Regarding claims 59-70, Terada, Bando, Yoneda, and King together teach the method of claims 9 and 10 (see 35 U.S.C. 103(a) rejection above), but do not expressly teach that at least one of the light, green, or blue light-emitting elements is formed by deposition using a shadow mask, an ink-jet method, or a printing method.

Bao teaches forming a red light-emitting element using a shadow mask, an ink-et method, or a printing method. Bao expressly teaches that any of these methods is suitable for forming such a light-emitting element (column 8, lines 44-48).

Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to use the method taught by Terada, Bando, Yoneda, and King together, and further use a shadow mask deposition, an ink-jet method, or a printing method to form either the red, blue, or green light-emitting element, since Bao teaches that these are suitable methods.

Response to Arguments

Applicant's arguments filed 5/1/2006 have been fully considered but they are not persuasive.

Applicant's primary argument (p. 14) is that Yoneda does not teach a specific advantage of using separate red, green, and blue light-emitting elements over a white light-emitting element, other than conventionality. However, as also noted by Applicant, an advantage of using art already known in the field of endeavor is a savings in time, and additionally resources, in developing new technology or methods. Furthermore, the MPEP (section 2123) states that "[a] reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art, including nonpreferred embodiments (*Merck & Co. v. Biocraft Laboratories*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989).)" It further states that

[d]isclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments. *In re Susi*, 440 F.2d 442, 169 USPQ 423 (CCPA 1971). "A known or obvious composition does not become

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patentable simply because it has been described as somewhat inferior to some other product for the same use.” *In re Gurley*, 27 F.3d 551, 554, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994). (The invention was directed to an epoxy impregnated fiber-reinforced printed circuit material. The applied prior art reference taught a printed circuit material similar to that of the claims but impregnated with polyester-imide resin instead of epoxy. The reference, however, disclosed that epoxy was known for this use, but that epoxy impregnated circuit boards have “relatively acceptable dimensional stability” and “some degree of flexibility,” but are inferior to circuit boards impregnated with polyester-imide resins. The court upheld the rejection concluding that applicant’s argument that the reference teaches away from using epoxy was insufficient to overcome the rejection since “Gurley asserted no discovery beyond what was known in the art.” 27 F.3d at 554, 31 USPQ2d at 1132.). Furthermore, “[t]he prior art’s mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed....” *In re Fulton*, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004).

Therefore, Yoneda need not teach additional advantages of using separate red, green, and blue light-emitting elements over a single white one, since Yoneda already teaches the advantages inherent with using methods that are conventional in the art.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Heather A. Doty, whose telephone number is 571-272-8429. The examiner can normally be reached on M-F, 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Carl Whitehead, Jr., can be reached at 571-272-1702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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